

1842-0024

IN THE CLAIMS:

Please amend claim 49 and add new claims 65 - 79 as reflected below. The complete listing of all claims and their status that follows is intended to replace and supercede all prior listings of the claims.

Claims 1-32 (cancelled)

33. (previously added) A method of introducing a fluent material into a disc space comprising the steps of:

creating an opening through the annulus fibrosis of a spinal disc in communication with the intradiscal space;
sealing said opening; and
introducing said fluent material through said seal directly into said intradiscal space.

34. (previously added) The method of claim 33, wherein said fluent material is introduced through a tube placed through said seal.

35. (previously added) The method of claim 34, wherein said seal is disposed within said opening.

36. (previously added) The method of claim 35, wherein said seal is disposed on said tube.

37. (previously added) The method of claim 34, further including the step of placing a cannula having a lumen therethrough into said opening and inserting said tube through said lumen.

38. (previously added) The method of claim 37, wherein said seal is disposed within said lumen.

1842-0024

39. (previously added) The method of claim 38, wherein said cannula is configured to distract two vertebrae on opposite surfaces of said disc upon placement of said cannula into said opening.

40. (previously added) The method of claim 33, wherein the step of introducing fluent material comprises introducing the material under pressure.

41. (previously added) The method of claim 40, wherein the fluent material is a curable biomaterial introduced into said intradiscal space in liquid form.

42. (previously added) The method of claim 41, wherein said pressure is substantially maintained until the biomaterial is cured.

43. (previously added) The method of claim 40, further comprising the step of providing a vent in communication with said intradiscal space and introducing the biomaterial into said intradiscal space until the biomaterial seeps from said vent.

44. (previously added) The method of claim 43, further comprising the step of closing said vent upon seepage of biomaterial from the vent to thereby increase the pressure of biomaterial in the disc space.

45. (previously added) A method of restoring disc height between two opposing vertebral bodies of the spine, comprising the steps of:

creating an opening through the disc annulus fibrosis in communication with the intradiscal space;

distracting the vertebral bodies apart to a selected spacing approximating natural disc height;

sealably introducing a curable biomaterial through said opening directly into the intradiscal space until the intradiscal space is substantially filled; and

maintaining the vertebral bodies in distraction until the biomaterial is substantially cured *in situ*.

1842-0024

46. (previously added) The method of claim 45, further including the step of removing at least a portion of the nucleus pulposus of the disc.

47. (previously added) The method of claim 45, further including the step of removing substantially all of the nucleus pulposus of the disc.

48. (previously added) The method of claim 45, wherein the step of sealably introducing the curable biomaterial comprises introducing the biomaterial under pressure.

49. (currently amended) The method of claim 45 ~~48~~, wherein the step of sealably introducing the biomaterial into the intradiscal space includes placing a seal adjacent said opening and causing fluent material to flow through said seal.

50. (previously presented) The method of claim 49, wherein pressure is substantially maintained until the biomaterial is cured.

51. (previously presented) The method of claim 45, wherein the distraction step is performed prior to the step of introducing the curable biomaterial.

52. (previously presented) The method of claim 45, wherein the distraction step is performed by a separate distractor.

53. (previously presented) The method of claim 52, wherein said distractor is a cannulated distractor having a lumen in communication with the intradiscal space.

54. (previously presented) A device for sealably introducing fluent material directly into the disc space through an opening formed through the annulus fibrosis of said disc, comprising:

a seal for cooperatively engaging said annulus fibrosis adjacent said opening for sealing said opening; and

1842-0024

a tube having a passageway for the flow of fluent material therethrough, said tube being configured for cooperative sealed engagement through said seal.

55. (previously presented) The device of claim 54, wherein said tube is defined by a cannula having an interior lumen extending therethrough.

56. (previously presented) The device of claim 55, wherein said seal is disposed on the said cannula.

57. (previously presented) The device of claim 56, wherein said seal is integral with at least a portion of said cannula.

58. (previously presented) The device of claim 56, wherein said seal is a separate component disposed on said cannula.

59. (previously presented) The device of claim 58, wherein said seal comprises a plurality of elastomeric rings.

60. (previously presented) The device of claim 59, wherein said cannula is configured to distract vertebrae adjacent to the disc space.

61. (previously presented) The device of claim 54, wherein said seal is configured for disposition in said opening.

62. (previously presented) The device of claim 61, wherein said seal includes a cannula separate from said tube, said cannula having an interior lumen through which said tube extends in use, said exterior of said cannula being configured to securely fit into said disc opening.

63. (previously presented) The device of claim 62, wherein said seal includes a sealing element disposed in said lumen.

64. (previously presented) The device of claim 63, wherein said sealing element comprises an elastomeric ring support in said lumen and configured for fluid-tight engagement with said tube.

1842-0024

65. (new) The device of claim 55 further including a vent extending through said cannula for communicating with said disc space.

66. (new) A device for sealably introducing fluent material directly into the disc space through an opening formed through the annulus fibrosis of said disc, comprising:

a generally elongate cannula having a proximal end and an opposing distal and lumen extending therethrough for the receipt and passage of fluent material, said distal end being configured for entry into said opening in said annulus fibrosis; and

a seal on said cannula at said distal end thereof, said seal being configured for sealably engaging the surface of said annulus fibrosis defined by said opening to provide a seal thereat.

67. (new) The device of claim 66, wherein said seal is integral with at least a portion of said cannula.

68. (new) The device of claim 66, wherein said seal is a separate component disposed on said cannula.

69. (new) The device of claim 66, wherein said distal end of said cannula is defined by an insertion tip configured for facilitating entry into said opening.

70. (new) The device of claim 69, wherein said insertion tip is separable from said cannula.

71. (new) The device of claim 70, wherein said seal is disposed on said insertion tip.

72. (new) The device of claim 69, wherein said insertion tip is configured to engage end plates of opposing vertebrae upon insertion into said opening and to distract said vertebrae.

1842-0024

73. (new) A method of restoring disc height between two opposing vertebral bodies of the spine, comprising the steps of:

creating an opening through the disc annulus fibrosus in communication with the intradiscal space;

distracting the vertebral bodies apart to a selected spacing approximating the natural disc height;

sealing the opening created in said annulus fibrosus;

introducing a curable biomaterial through said sealed opening directly into the intradiscal space until the intradiscal space is substantially filled; and

allowing the biomaterial to be substantially cured *in situ*.

74. (new) The method of claim 73, wherein the step of sealably introducing the curable biomaterial includes introducing the biomaterial under pressure.

75. (new) The method of claim 74, wherein said pressure is substantially maintained until the biomaterial is cured.

76. (new) The method of claim 73, wherein the distraction step is performed prior to the step of introducing the curable biomaterial.

77. (new) The method of claim 73, wherein the distraction is maintained until the biomaterial is substantially cured.

78. (new) The method of claim 73, wherein the distraction step is performed by a separate distractor.

79. (new) The method of claim 78, wherein said distractor is a cannulated distractor having a lumen in communication with the intradiscal space.